

## Case Report

# Thenar intramuscular lipoma: a rare case report

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### ABSTRACT

Lipoma, though one of the most common benign mesenchymal neoplasms, its presentation in hand is very rare. It can be located in various planes. Intramuscular lipomas are uncommon and usually occur in the proximal muscles of the extremities. Intramuscular lipoma of hand is extremely rare and only very few cases have been reported in the literature. Lipomas of hand may present with neurovascular deficit due to compression. We present here an unusual case of intramuscular lipoma of thenar region with no neurovascular deficit which was surgically excised under local anaesthesia with good cosmetic and functional outcome.

**Keywords:** Intramuscular, Lipoma, Swelling, Thenar

## INTRODUCTION

Lipomas are one of the most common benign, mesenchymal neoplasms.<sup>1</sup> They are made up of mature adipose tissue. These tumors can occur at any age, but are most common in middle age, often appearing in people from 40 to 60 years old. They have ambiguous location with the majority appearing in the shoulder, back, head and neck region. They are classified into superficial and deep lesions based on whether they are located superficial or deep to the deep fascia. Most soft tissue lipomas are superficial and are located subcutaneously. Deep soft tissue lipomas are less common than superficial lipomas and can be located above muscle (supra-muscular), below muscle (sub-muscular), between muscle (intermuscular), and within muscle (intramuscular).<sup>2</sup> Though subcutaneous lipomas are most common, deep seated lipoma too are relatively common. Deep seated lipomas usually occur in the extremities and do not have as characteristic clinical presentation as subcutaneous lipomas. They tend to be firmer in consistency, less well-defined and often mimic a sarcoma.<sup>3</sup> The most common sites of involvement of intramuscular lipomas are proximal muscles of the extremities, especially those of the thigh, shoulder, and upper arm. Intramuscular lipoma

of the hand is extremely rare.<sup>4</sup> In the present report we describe an unusual case of thenar lipoma.

## CASE REPORT

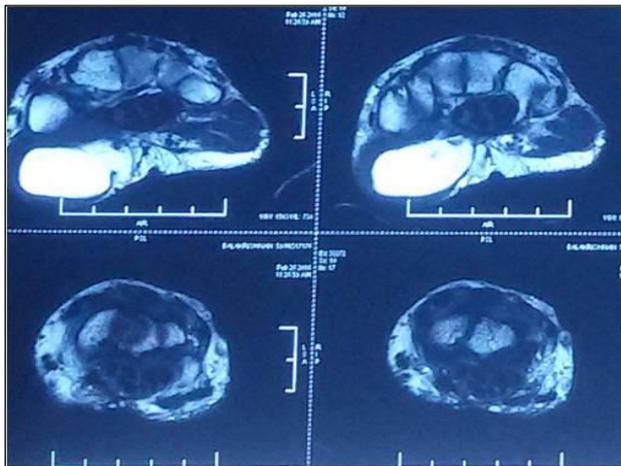
A 59-year male presented to our department with complaints of swelling over his left hand, which he noticed a couple of months ago. He had mild discomfort over the swelling. He had no complaints of weakness of hand or fingers, pain, paraesthesia or numbness. On examination there was an ill-defined, soft, non-tender lump over his thenar eminence. Overlying skin was normal. Power of his hand muscles were 5/5. Sensation on his hand was normal. There was no vascular compromise. There was no axillary lymphadenopathy

An ultrasound (USG) was done which showed bulky muscles of thenar region which were heterogenous suggestive of any post-traumatic inflammation. As the patient did not have any traumatic incident and USG was inconclusive, an MRI was performed. MRI revealed a well-defined hyperintense lesion within thenar muscles suggestive of intramuscular lipoma of dimension 3.4 x 1.7 cm. Superficial palmar branch of radial artery was seen coursing on its medial aspect. FNAC was done

which showed mature adipose tissue consistent with lipoma.



**Figure 1a, 1b and 1c: (a) Pre-operative image; (b) Intra-operative image showing intramuscular lipoma; (c) Post-operative image after 1 month.**



**Figure 2: MRI image showing intramuscular lipoma.**

Under local anaesthesia and aseptic conditions, 3 cm palmar incision was placed parallel to the thenar muscles. The muscle fibres were retracted and the lesion excised into. It measured 3.5 x 2 cm x 1.5 cm. The incision was closed in layers. The patient had an uneventful recovery with full hand function. Specimen histopathology confirmed lipoma.

## DISCUSSION

Lipoma is the most common benign soft tissue tumor. The World Health Organization's committee for the classification of soft tissue tumors categorizes soft tissue lipomatous tumors into 9 entities: lipoma, lipomatosis, lipomatosis of nerve, lipoblastoma, angiolipoma, myolipoma of soft tissue, chondroid lipoma, spindle cell/pleomorphic lipoma, and hibernoma.<sup>5</sup> The reported frequency of intramuscular lipomas among all benign adipocytic tumors is 1.0%-5.0%, and that of

intermuscular lipomas is 0.3%-1.9%.<sup>6</sup> The thigh is the commonest location of intramuscular lipomas followed by the deltoid muscle. Intramuscular lipomas of the hand are very uncommon.<sup>4,7</sup>

There are two subgroups of intramuscular lipomas; infiltrative type and well-circumscribed type. The term infiltrating lipoma has been used due to the infiltrative nature of the tumor in histological examination and represents the commonest type.<sup>7</sup> Most intramuscular lipomas are asymptomatic and come to notice after a long period. Intramuscular lipomas of hand may have neurovascular deficit due to mass effect. They come to clinical attention because of cosmetic reasons or functional deficit of hand. In cases of well circumscribed intramuscular lipomas, a well-defined hyperechoic ovoid mass is usually seen that is clearly delineated from the surrounding muscle. Some lesions appear isoechoic to the adjacent muscle tissue and this might lead to misdiagnosis or non-diagnosis. Areas of heterogeneity within the lesion can also be seen representing thin intrinsic septa. If encapsulated, the capsule is usually difficult to be identified on ultrasound. In infiltrative types of intramuscular lipomas, the muscle tissue is separated in a bland fashion by fat, producing a heterogeneous striated mass that might be interpreted as a non-lipoma lesion and mimic malignancy.

As the sonographic picture can be varied and lead to misdiagnosis, MRI imaging is necessary for evaluation. MRI findings of intramuscular lipomas varied from a small, single and homogeneous mass to a large, inhomogeneous lesion with infiltrative margins. The presence of infiltrative margins and intermingled muscle fibers in intramuscular lipoma indicated a benign lesion rather than malignancy. In addition, uninodularity of the mass is helpful in differentiating intramuscular lipoma from well-differentiated liposarcoma.<sup>8</sup>

## CONCLUSION

Irrespective of these radiological imaging, biopsy is necessary especially in giant lipomas, which are lipomas more than 5 cm in size. Surgical excision is the treatment of choice. Complete excision is needed to prevent recurrence while avoiding damage to nearby neurovascular structure. In most reported cases, surgical excision of the lipoma resulted in full functional recovery. Due to its rarity however, the recurrence rate is unclear.

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